

Creating First-Mover Advantages in Nature-Based Recreational Goods

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Abstract Most nature-based recreational goods have traditionally been viewed as positive externalities of forestry and other land uses. They have been characterised by low degrees of excludability and rivalry and have therefore mainly been public goods. Due to increased rivalry among various user groups as well as an increasing demand for new recreational experiences, markets for nature-based recreational goods and services are gradually emerging. Despite the slow market development it is argued that nature-based recreational goods can be connected with substantial first-mover advantages. This paper explores the possibilities for using theory on first-mover advantages combined with characteristics of recreational goods to find the main areas of focus and the related strategies by which to gain first-mover advantages. The characteristics of recreational goods are analysed as well as the relevant first-mover advantages from the literature. Four examples of nature-based recreational goods are provided and used to analyse the scope for creating first-mover advantages according to the characteristics of each type of good. The analysis shows that particularly buyer switching costs and targeting the right buyers can create considerable first-mover advantages. Furthermore, non-subtractable goods and goods which can attract organised buyers can be connected with greater first-mover advantages. Combining knowledge on recreational goods and first-mover advantages can support the development of markets for nature-based recreational goods and increase returns on investments in this field.

Keywords First-mover advantages · Recreational services · Mountain biking · Horse riding · Dogs · Fairs · Excludability · Rivalry

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Introduction

Nature-based recreational goods and services have traditionally been viewed as positive externalities of forestry and other land uses. Characterised by low degrees of rivalry and excludability these goods have mainly been classified as public goods (cf. Ostrom 2003). Due to increased rivalry among various user groups and demand for new and more challenging spare time activities, the levels of rivalry and excludability have increased and markets for recreational goods and services are gradually emerging. However, the markets for recreational goods have not developed fast (Mantau et al. 2001a; Lund et al. 2008) despite potential first-mover advantages.

Recreational goods and services can be viewed as a special part of ecosystem services (De Groot et al. 2002) and share some characteristics with non-wood forest products (NWFP), although they are by definition not a part of this classification (Chandrasekharan 1995). The term ‘forest goods and services’ has been suggested as a more appropriate name than NWFP to emphasise the forestry context and reflect the variety of forest products which it covers (Mantau et al. 2007). In the following, the term ‘recreational goods’ is used for all recreational goods and services—whether or not they mainly resemble services.

Despite the fairly slow development, the economic importance of recreational goods seems to be increasing; in some areas the income from recreational goods greatly exceeds the income from timber production (Pettenella et al. 2007).

In Europe, markets for recreational goods have been investigated earlier through case studies (Mantau et al. 2001a). Moreover, the marketability of NWFP in Europe has been analysed by Pettenella et al. (2007) who found product differentiation and establishment of networks to be important ways of enhancing the value of some NWFP. First-mover advantages have been discussed in relation to recreational goods by Vedel et al. (2009) who focus on strategic interaction between forest owners and potential gains from public subsidies in the market.

This paper explores the possibilities for using theory on first-mover advantages combined with characteristics of recreational goods to find the main areas of focus and the related strategies by which to gain first-mover advantages. This may be important knowledge for supporting market development. A framework for the analysis is proposed to structure current thinking of first-mover advantages in relation to nature-based recreational goods and thereby increase marketability. The paper is structured as follows: First, the relevant theoretical contributions from the literature on first-mover advantages are discussed. Following this, the special characteristics of recreational goods are pointed out and four types of recreational goods are used to discuss the scope for creating first-mover advantages in forestry. They are: Horse riding, forest areas for dogs, mountain biking and fairs. Discussion and concluding remarks highlight the main opportunities for creating first-mover advantages in forestry based on the four examples and discuss potential additional first-mover advantages and limitations.

Theory on First-Mover Advantages

First-mover advantages refer to the benefits gained from pioneering in a field. This could be by entering a new market, introducing a new product or a new process. Lieberman and Montgomery (1988) provided a unified framework and review of the research and they stated that first-mover advantages are opportunities which arise because of proficiency and luck. Theoretical models have confirmed that initial luck or skill-based asymmetries are a prerequisite for first-mover advantages.

In recent years first-mover advantages have been reviewed by Ketchen et al. (2004) as one research stream within competitive dynamics. Earlier, Kerin et al. (1992) analysed which mechanisms underlie first-mover advantages and what factors have an enhancing or diminishing effect on the basic mechanisms. Moreover, they relate this to the particular competencies of a firm which relates to the resource-based view (Lieberman and Montgomery 1998). Mechanisms for gaining first-mover advantages can be related to technological factors, pre-emption of scarce assets, behavioural factors and economic factors (Lieberman and Montgomery 1988; Kerin et al. 1992). Technological factors are believed to be of minor importance in relation to recreational goods and the following deals with the three remaining mechanisms.¹ Lee and Ng (2007) have reviewed how pre-emption can be used to sustain first-mover advantages. They operate with a switching cost strategy which can be particularly relevant to some recreational goods, a tie-up strategy which, in our case, is mainly relevant to spatial pre-emption of attractive market segments and geographic location (e.g. near urban areas).

The following deals with mechanisms and characteristics which are relevant with regard to creating and sustaining first-mover advantages in recreational goods:

- Services versus manufactured goods
- Pre-emption of assets
- Behavioural factors
- Economic factors

Nature-based recreational goods often have characteristics which resemble services. Song et al. (1999) have investigated managers' general perceptions of first-mover advantages in manufacturing and service industries for comparisons. They found that first-mover advantages are generally believed to be greater within manufactured goods. However, the perceived pioneering risk after entry is also believed to be greater in the manufacturing industry than in the service industry. The differences arise because there are often relatively low barriers to entry in services due to lower investment and development costs. Furthermore, services are often easier to copy than manufactured goods, and together with the low barriers to new entrants it becomes harder for a pioneer in services to gain and sustain a first-mover advantage. One way, however, to secure an advantage could be through patentable innovation. Moreover, due to the heterogeneous characteristics of services it is easier for a later entrant to offer a slightly differentiated service directed at specific

¹ Technological factors could, however, be relevant in relation to, e.g. creating a superior payment vehicle as discussed under economies of scope later in this section.

customer needs (Song et al. 1999). An investigation of service pioneering advantages can be found in Song et al. (2000).

In this context, pre-emption can be either spatial or resource-based. Spatial pre-emption can be to secure a superior geographic location (near urban areas, unique landscape etc.). If a forest has a unique geographic location (or unique landscape/sights), then the owner can gain monopoly power at any point in time if he enters the new market, since no other forest owner can compete with the location. The opportunity for spatial pre-emption will therefore be determined by ownership of an area.

Even within pure services, first-mover advantages can be sustainable if spatial pre-emption is relevant in the competition between firms (Bharadwaj et al. 1993). Pre-emption of resources could be to take the most attractive niches with regard to product characteristic space (e.g. a Christmas fair with the most popular craftsmen, artists or local tradesmen), however, this type of pre-emption may be easier to challenge for a second-mover compared to spatial pre-emption.

Behavioural factors which are relevant to nature-based recreational goods are: buyer switching costs, the possibility of affecting preferences, network effects (communication good effects) and search and learning costs.

Buyer switching costs, which the buyers may face when switching from one supplier to another, can be used by the forest owner as an important tool to gain and maintain an advantage. If buyers face switching costs they will be more reluctant to switch to a new supplier due to extra costs and this means that followers in the market have to invest more resources to attract these buyers. Recreational goods which are directed at organised buyers (such as a municipality or an association) can provide the owner with an advantage if the buyers are economically tied through a contract or through a high initial investment in the area, e.g. through time and labour invested in creating facilities. A follower in the market would have to invest additional resources to attract the organised buyers.

Moreover, first-mover advantages can be substantial if the infrastructure in a municipality is developed to favour the first-mover. This can be the case if, e.g. pedestrian paths, bike routes, roads and parking places are constructed in relation to new recreational facilities. This is a large investment for the municipality/region and generates substantial buyer switching costs. Furthermore, it is likely to have an effect on which areas people choose to visit in their leisure time due to ease of access.

The first-mover can also gain an advantage by affecting people's preferences. Preferences are believed to be formed gradually as the consumer gains experience with a product and its attributes (Carpenter and Nakamoto 1989). Hereby, the first-mover can influence a consumer's perceptions of the relative importance of a product's attributes to his benefit. Later, goods and their attributes will be judged and valued according to the known ideal combination of attributes (Kerin et al. 1992; Brekke 1997; Chiang 2004). The first-mover effect on preferences is believed to be significant in relation to recreational goods because people have a tendency to develop preferences for the forest areas and nature types they are used to visit (Koch and Jensen 1988).

Certain types of recreational goods will have network effects which refer to the fact that the value to the consumer increases as the number of users increase. This is

relevant to goods which, to some extent, are non-subtractable (Carpenter and Nakamoto 1989). First-mover advantages can also be sustainable within pure services if network effects are present (Bharadwaj et al. 1993; Song et al. 1999).

Once users have become familiar with a recreational good, the first-mover has established an advantage through information and experience asymmetry. It will require extra costs and effort of the users to search for information on recreational goods which are marketed later. This effect is most important in relation to recreational goods which have a strong resemblance to services. The consumers take a risk when choosing a product of this type, since it is partly intangible and its quality cannot be inspected by the user before purchase (Bharadwaj et al. 1993). Due to the informational asymmetry it can be a major challenge for a later entrant to convince customers to switch to a new recreational good when they already are familiar with the quality and characteristics of the first-mover's good.

Economic factors such as economies of scale and economies of scope can help overcome barriers connected with offering recreational goods. Large sunk costs and indivisibilities of supply are often the most important factors to overcome when offering recreational goods. Economies of scale can be important to overcome the large sunk costs connected with recreational goods which require large geographic areas or have high establishment costs due to facilities etc., e.g. network of hiking/biking trails; facilities for live-action role-play (Andersson and Andersson 2006). Moreover, the capacity of an area to offer recreational goods will often not be fully exploited. This is relevant to recreational goods which are season dependent or activities which only take up very limited time on a yearly basis, e.g. hunting seasons; recreational summer activities. In some cases activities with these characteristics can take place on the same area at different times of the day or year (Andersson and Andersson 2006). Economies of scale are traditionally believed to be of minor importance in relation to services due to the decentralisation of production and the often people-based nature of services (Bharadwaj et al. 1993).

Economies of scope could be relevant if the forest owner, for example, establishes a mechanism for handling payments for recreational goods which can be utilised when selling other goods and thereby lower the transaction costs per product.

External Factors and Risks

External factors and risks to consider before choosing a first-mover strategy can be public opinion, governmental policies, shifts in consumer needs, technological and market uncertainties, free rider problems and crowding out by public supply (Lieberman and Montgomery 1988; Kerin et al. 1992; Lee and Ng 2007). External factors and risks are all related to the setting in which a specific recreational good is offered and are therefore case specific. They can be of great importance for the future demand and the possibilities to sustain first-mover advantages. However, since external factors and risks are related to the national/local setting (national laws, local competition, public supply etc.) it lies outside the scope of this paper to deal with them in depth.

Characteristics of Nature-Based Recreational Goods

The emerging markets for nature-based recreational goods in Europe have previously been investigated through 98 case studies in five European counties (Mantau et al. 2001a). Excludability was found to be the main determinant for the potential increase in marketability in most of the cases (Merlo et al. 2000; Mantau et al. 2001a, b) and later also in relation to the work in COST Action E30 country reports (Jäger 2005). A special issue in *Small-scale Forestry* (2007) presents various parts of these investigations.

The property rights and their consequences for innovation and development in small-scale forestry have been investigated by Bouriaud (2007) who found that many potential areas of innovation within forest goods and services, among others, suffered from unspecified ownership rights. Other studies have focused on key development paths for non-wood forest products and services and found differentiation, quality control and the development of networks to be the most important tools (Pettenella et al. 2007). Furthermore, they found that the greatest scope for creating value lies in developing complementary forest products, i.e. products where the demand is positively correlated.

Based on the previously mentioned literature and case studies, the special characteristics of recreational goods are determined and will be investigated in the following in order to find potential opportunities for creating first-mover advantages; the characteristics are:

- Geographically bound to a site
- Competition (oligopoly or monopoly)
- Consists of something immaterial (added value)
- Resembles manufactured goods or services
- Various levels of subtractability (good/location specific)
- Various levels of excludability (good/location specific)
- Organised or unorganised consumers
- Indivisibility of supply
- Large sunk costs

Recreational goods are geographically bound to the site where they are produced i.e. the production and consumption of the good takes place in the forest or in the vicinity of the forest. This characteristic separates them from manufactured goods where the place of purchasing the good normally differs from the place of production. This has a limiting effect on the potential number of consumers because they have to travel to the site where the recreational good is produced. The distance people are willing to travel will often depend on what type of recreational good the supplier offers. Therefore, by choosing the type of good, the supplier indirectly also determines the potential number of consumers available (based on inhabitants in the relevant area or tourists). The potential competition will be determined by how many forest owners can compete for the same consumers in an area. Consumers are normally willing to travel longer distances for goods with low purchase frequency and high consumer surplus (e.g. Fix and Loomis 1998; Chakraborty and Keith 2000).

Based on the above characteristics of recreational goods, any potential market is most likely to develop into an oligopoly and a situation close to that of perfect competition may not be relevant in these emerging markets. This will in turn affect first-mover advantages and make some strategies more attractive than others.

A large part of the value of a recreational good is based on something immaterial and the experience it provides people with. This can be the surroundings of the forest in general, the knowledge of being in a special designated area or enjoying a spectacular view etc. To some extent the environment makes up an element of the recreational good which is sold and the good cannot be separated from this element (Pine and Gilmore 1999). The forest, as locus for recreational goods, creates an experience for the buyer which becomes an integral part of the recreational good.

Furthermore, it can be difficult to categorise recreational goods as either manufactured goods or services since they often display elements of both categories and still do not fit into either category completely. In general, services differ from manufactured goods in many ways. Services are normally intangible, heterogeneous, and perishable and require simultaneous production and consumption (Zeithaml et al. 1985). Naturally, the resemblance with either manufactured goods or services will vary between recreational goods. In this context, the supplier should consider the strengths and resources of the enterprise since service-based goods often require more manpower than manufactured goods.

A common feature of many recreational goods, which separates them from both manufactured goods and services, is that they are often not completely subtractable. A recreational good can be purchased by one consumer without necessarily subtracting from the total consumption available to other consumers (e.g. using a hiking trail; enjoying a spectacular view). The level of excludability will depend on the type of recreational good as well as the laws of access to private land. Public access to private forests varies across Europe and determines national levels of excludability which therefore results in different national settings for creating first-mover advantages.

Moreover, many recreational goods are not fully divisible and this means that forest owners often have to choose to enter the market with a certain minimum quantity, e.g. a network of trails for horse riding. These indivisibilities raise the amount of sunk costs needed to enter the market. Some recreational goods mainly attract organised or unorganised consumers, however, in some cases goods can be directed at both types of consumers depending on the way they are marketed and sold.

Some of the above characteristics may be inherent in a specific recreational good, however, other characteristics can be based on a deliberate choice in order to create first-mover advantages or utilise the resources of the firm (available manpower, firm specific strengths etc.).

First-Mover Examples From a Forestry Context

Four types of recreational goods from Danish forests are briefly described and discussed according to the literature on recreational goods and first-mover

advantages; these are: horse riding, forest areas for dogs, mountain biking and fairs. The recreational goods were selected so that they cover both well-established and new activities, organised and unorganised users and different conditions with regard to excludability and subtractability in order to analyse if differences in these characteristics affect first-mover advantages. Moreover, they cover a wide selection of the activities on which the Danish Forest and Nature Agency focuses at present.² Empirical data on the four examples of recreational goods were collected as part of two research projects on experience economics and alternative sources of income for Danish forest owners (Lund et al. 2008, 2009a, b). Lund et al. (2008) made a fairly large and complete inventory of existing and emerging activities in this field in Danish forests from which the four examples were selected. The empirical data are based on interviews and dialogue with two forest enterprises throughout the project period and a workshop with a number of forest owners, interest groups and other stakeholders. Findings from other studies of recreational goods are included to provide perspectives on opportunities for first-mover advantages in different settings which are not reflected in the four examples. In the following, a brief descriptive introduction to each example is followed by an analysis of the first-mover advantages related to the setting and the characteristics of each type of recreational good. The analyses are structured as follows: the characteristics of the recreational good concerning excludability and subtractability are described, the resemblance to manufactured goods or services and potential rivalry with other user groups. The level of organisation among users, public provision and consequences for competition are discussed afterwards. The relevant first-mover advantages are discussed under each example.

Horse Riding

In Denmark horse riding on private land is restricted by law. Private forest owners can choose to give permission and this is normally only given against a fee. Horse riding is free of charge in almost all state forests with the exception of a few areas close to the capital (Forest and Nature Agency 2009a). Despite the public provision there is a well-established market for selling licenses for horse riding on private land. Licenses are normally sold to individuals on a yearly basis and the price is 50–200 Euro with great spatial variation though (Lund et al. 2008). Some owners also form contracts with local clubs or riding schools. Forest owners provide and manage a network of trails specifically for horse riding which are normally separated from other trails in the forest and exclusively for horse riding.

Based on the legal framework horse riding is characterised by high excludability and low degrees of subtractability among users. Rivalry with other forest user groups is more likely. The low subtractability generates substantial economies of scale; once a network of trails is established, new users will generate more revenue and almost no additional management costs. A network of trails has greatest resemblance with manufactured goods and it normally requires high establishment cost, but also potential high first-mover advantages. Many users are unorganised and

² See www.skovognatur.dk/Ud/Aktiv

would like to gain access to trails on an individual basis. Unorganised users mean higher transaction costs and if the recreational good was bought one trip at a time it would mean low prices and high purchase frequency. In practice, forest owners have converted horse riding into a good with high costs and low purchase frequency by selling access licenses to trail networks on a yearly basis. This ties the users to the specific area for a longer period and it also reduces transaction costs.

Moreover, since there is a long tradition for regulating horse riding in private forests, it is generally accepted that you have to pay to gain access. Even though horse riding is free in nearly all state forests there is a well-established market for selling licenses and the private supply has not been crowded out by the state. This is mainly because users are typically only willing/able to travel a short distance with their horse, so these markets only compete on a local scale because the good is geographically bound to the site.

Forest Areas for Dogs

Forest areas for dogs are special designated areas in the forest where dog owners can let their dogs loose and go for a walk and perhaps also use the area for special dog training. At present there are 70 fenced forest areas for dogs in state forests and several more unfenced areas (Forest and Nature Agency 2009b). Selling access to special designated areas for dogs in the forest is a new market in Denmark. However, the estate Vallø Stift has had success in the last year by contracting with local dog owner associations as well as unorganised owners. Yearly licenses are sold for approximately 70 Euro. At the same time the estate has tried to alleviate the problem of loose dogs in the forest in general by creating small fenced areas which can be used by anyone for free on an unorganised basis. These areas were mainly marginal forest areas with low biodiversity and of minor economic importance (Lund et al. 2009a; Vallø Stift 2009).

Excludability is high for this recreational good since loose dogs in forest areas are normally forbidden by law. Forest areas for dogs as a recreational good are to some extent non-subtractable since a number of owners can use the same area without necessarily affecting each other negatively. However, loose dogs outside the fenced areas in the forest will often have negative impacts on most other user groups, e.g. families with children, horse riders, mountain bike riders and runners (Jensen 2003). So fenced forest areas for dogs are expected to have large positive externalities for other user groups—which, however, are not reflected in the revenue unless the other goods are also marketed.

Forest areas for dogs resemble manufactured goods since the forest constitutes the facilities in which the dog and owner create their own activities. Many users are unorganised, however, it is also possible to attract users who are organised through, e.g. kennel clubs. Vallø Stift has successfully managed to use market segmentation by offering specialised products to different user groups. A few marginal areas can be used free of charge by everyone, whereas dog owners who wishes to use one of the larger fenced areas on a regular basis can buy a license which grants them access for a year at a time. Moreover, a separate fenced area which complies with the minimum requirements for official dog competition fields and fulfils the wants of

local specialised dog sports associations is let out to members of these associations on a yearly basis. By segmenting the market like this, the forest owner utilises that more specialised user groups are willing to pay more for recreational goods which fulfils their wishes. The same tendency has been documented in other countries; Christie et al. (2007) found that more specialised forest user groups such as downhill mountain bikers in Great Britain were willing to pay more for dedicated trails and facilities etc. than less specialised recreationalists were willing to pay for trails that targeted their needs. Munley and Smith (1976) found the same trend concerning white-water rafting where people in higher skill classes were more willing to take on additional travel costs for white-water recreation. Forest owners may therefore receive greater profits if they choose to target specialist forest user groups instead of general user groups.

Buyer switching costs are created with regard to the contract period as well as search and learning costs for the dog owner associations based on the good dialogue and relation which have been established between the forest manager and the associations. Even though the acceptable travel distances are expected to be higher for more specialist user groups due to higher consumer surplus per trip (cf. Christie et al. 2007) crowding out by public offers has not been a problem so far. One reason for this is that the less specialised users who visit the fenced areas with their dogs on a regular basis cannot be expected to travel far from their home, so the market is determined by the local demand. Furthermore, the specialised dog owner associations have been offered a superior good compared with what they have access to in public forests. By offering licenses on a yearly basis, Vallø Stift has managed to contract with both organised and unorganised users, to create buyer switching costs and to keep transactions costs at a relatively low level.

Mountain Biking

In privately owned forests the public are allowed to bike on normal forest roads and paths. However, this often limits the thrill and challenge for many riders compared with dedicated trails for mountain biking. In state forests, mountain bikers are, in addition to the above, allowed to bike on minor trails and paths and in recent years the state forests have established special trails for mountain bikers (LBK nr. 1042 2008; Forest and Nature Agency 2009c), partly to meet the wishes of the riders and partly to minimise conflicts with other user groups. The first mountain bike trails were established in public forests in the mid 1990s and at present there are trails at approximately 20 different locations in the country. In recent years the sport has expanded rapidly and more riders are organised in clubs. At present, mountain bike activities mainly take place in state forests in Denmark. A few private forest owners have hosted mountain bike competitions in connection with a large event at the forest estate (e.g. Frijsenborg MTB Explorer).

The legal framework which prohibits biking on small paths (single trails) creates a high level of excludability for specialised mountain bike trails in private forests. Mountain biking is to a great extent a non-subtractable recreational good and it has some network effects because users often prefer to ride together for training or leisure trips. Similar network effects have been found in the market for hunting

(Lundhede et al. 2009). Mountain bike riders can sometimes create conflicts with other user groups such as horse riders and people with loose dogs and therefore state forests often try to separate these user groups by establishing trails/designated areas. Conflicts among user groups are few, but if they are present they are often related to an encounter with mountain bike riders or loose dogs (Jensen and Koch 1997). Similar to horse riding and forest areas for dogs, mountain biking resembles manufactured goods because the forest only provide the trails on which users create their own recreational activities at their own convenience.

Valuation studies of mountain biking have been made in other countries to find users' willingness to pay in order to consider this when managing public resources. Chakraborty and Keith (2000) have estimated the consumer surplus per person per trip of mountain biking in Moab, Utah at US \$585; an area that offers some of the most varied and enjoyable mountain bike trails in the USA. Fix and Loomis (1998) estimated consumer surplus per trip in the same area at approximately US \$220 by using TCM (Travel Cost Method) and CVM (Contingent Valuation Method). They suggest that valuation studies of mountain biking in Moab could be viewed as an upper bound for the economic benefits related to this recreational good due to the uniqueness of the area and the large distances people are willing to travel to get there. This represents a unique recreational good to which people perhaps only travel once in a lifetime and it can be viewed as an extreme example of a low purchase frequency good with high costs. Also countries such as Great Britain have focused on developing mountain bike trails for recreational purposes as well as potentially for boosting tourism in rural areas (Weiss et al. 2007). However, the potentials for attracting tourists are more limited in a Danish context due to differences in landscapes and possibilities for creating spectacular trails, and the same level of consumer surplus cannot be expected. The Danish forests are more likely to mainly cover regional and national demand and, to a smaller extent, multi-purpose tourism. Many mountain bikers are used to travel by bike or car in order to get to the recreational sites in the forests. Even though this widens the potential market for private forest owners in rural areas, it also leaves a challenge since private owners are more likely to have to compete with the public supply of trails in state forests. Since local demand will mean many individual users who visit the forest repeatedly, forest owners should aim at converting the recreational good into one of lower purchase frequency and higher costs in order to create first-mover advantages and minimise transaction costs. This can be by focusing on users who are already organised and offer them a superior good (better trails, facilities, exclusive access for members etc.). It could also be by selling yearly access licenses to individual users as in the case of horse riding. A third possibility could be to focus on another kind of organisation among users—namely the event-based where it is possible to host or sell access rights to a competition (e.g. like Frijsenborg MTB Explorer). For many forest owners it could be a more attractive opportunity to host a one-day race with 500 competitors as opposed to selling licenses and having individual riders use the trails throughout the year. However, selling extended access rights to individuals or organised users is expected to have greater first-mover advantages due to the establishment of buyer switching costs. With regard to hosting races, the organisers and participants will often prefer the challenge of trails

they have not ridden before. This should provide potentials for private forest owners (around the capital at least) since state forests have been used repeatedly for nearly all races the last 5 years or more (e.g. Dustcup 2009).

Fairs

Many forest owners host an annual Christmas fair of varying scale from low-key arrangements where families can cut down their own tree in the forest to large events with craftsmen, speciality foods and entertainment. Other types of seasonal events and theme fairs with a number of artists, exhibitions, food and cooking have also gained a footing. The strategies behind this have either been to keep it as simple as possible so the fair can be managed by the resources of the forest enterprise or to involve many other businesses by selling market stands to them and attracting more people by creating a special and unique event (Lund et al. 2009a, b).

The establishment of networks by gathering many other businesses at a fair is in accordance with the findings of Pettenella et al. (2007) who suggested that establishing networks with both private and public partners can create substantial benefits. In their context a fair could resemble a complementary good where the businesses benefit from each other and sales of different types of goods can potentially be complementary.

Fairs are a special event in the forest and excludability is high since forest owners can determine the rules of access themselves (entrance fee etc.). The experience of visiting a fair will be non-subtractable until a certain level (crowding) whereas specific products bought at the fair will be subtractable. The experience of visiting a fair has many similarities with pure services since production and consumption are simultaneous. The reason for visiting the fair will namely be that of sharing a nice day with the family, buying a Christmas tree, enjoying the Christmas spirit etc., so the way people experience the recreational good is essential. Users buy an experience where a great part of the value is generated by something intangible e.g. the atmosphere at the fair created by local craftsmen, the forest, Christmas activities for children and other users. Fairs are normally characterised by attracting unorganised users and they are limited in time to a few days or weekends. An example of trying to benefit from creating some level of organisation among users could be to sell company packages so a company buys access for all their employees to the market, cutting down a tree etc. as a Christmas gift to the employees.

The forest owner can aim at establishing a first-mover advantage by pre-emption by taking up the most attractive product characteristic space, e.g. by having popular artists, craftsmen or entertainers present at the fair. However, this type of pre-emption within services such as fairs will be easier to challenge for a second-mover in the market by offering a slightly different good. Furthermore, a fair may be something you only visit once a year or even more seldom, but as in the case of mountain biking in a Danish context it will be difficult to turn it into a once in a lifetime recreational good with very high willingness to pay. However, the surroundings and possible buildings related to the forest enterprise/estate may be sufficient to create a special and unique setting to affect people's preferences for this type of good and therefore they may prefer to visit the same well-known fair every

year. This is particularly the case because the success of services as a recreational good relies on the experience, atmosphere and impressions it provides people with. This is in contrast to recreational goods based on facilities in the forest where the users create their own experiences (e.g. trails and forest areas for dogs).

Discussion

The characteristics of recreational goods can be put into a framework with the potential first-mover advantages which can be created. This can be used to analyse which opportunities may be prevalent for a given type of good in a given situation based on characteristics. A plus sign + indicates that a characteristic is likely to have a positive effect on the first-mover advantage in question and a plus sign in brackets (+) indicates that the characteristic *may* have a positive effect on the first-mover advantage in question. The four examples of recreational goods described above are listed where relevant; a listing indicates that the characteristic and related first-mover advantage are relevant to the recreational good whereas a listing in brackets indicates that they *may* be relevant to the recreational good. Some of these characteristics and first-mover advantages will be good-specific whereas others are not necessarily related to the type of recreational good. The framework in Table 1 deals with characteristics which are good-specific but may vary between two types of recreational goods. Furthermore, Table 1 includes all first-mover advantages discussed in Sect. “[Theory on first-mover advantages](#)” except for the opportunity to affect preferences and economies of scope. Since these two mechanisms can be pursued across various types of recreational goods they are not good-specific and will be discussed separately afterwards.

Potential for Creating First-Mover Advantages in Recreational Goods

As shown in the four examples and Table 1, the greatest potential for creating first-mover advantages can be found in non-subtractable recreational goods which resemble manufactured goods and where it is possible to attract organised buyers. Non-subtractability can lead to both network effects and economies of scale, however, this is not necessarily the case for all non-subtractable goods. Some recreational users may prefer the solitude and quietness of walking their dog alone or going horse riding without meeting anybody. However, if network effects are present it means that new users will prefer to use the same site which is already frequented by other users (e.g. riding the same trails together as a group). In this case network effects attract more users to the same site and thereby create substantial first-mover advantages by making new sites less attractive. Facilities in the forest such as fenced areas for dogs or trails for horse riding can also be connected with economies of scale because the establishment costs are a fixed initial investment and the revenue increases with the number of users due to lower marginal costs of production. A follower in the market will have to achieve a similar scale to be competitive. In markets with limited demand (number of users) the first-mover can capture a large market share which can be a powerful deterrent to entry.

Table 1 Goods-specific first-mover advantages

Characteristics	Network effects	Economies of scale	FMA		Search and learning costs
			Buyer switching costs	Pre-emption	
Non-subtractable	+	+			
	Horse riding Mtb	Horse riding Mtb			
Subtractable					
Manufactured goods	(+)	(+)	(+)		
	Horse riding Mtb	Horse riding Dog owners Mtb	Horse riding Dog owners (Mtb)		
Service characteristics					+
					Fairs
Organised buyers			+		
			Horse riding (Dog owners) (Mtb)		
Unorganised buyers					
Unique location				+	
Unique product characteristics				+	
				(Fairs)	

This effect will be even stronger if the minimum efficient scale is also large relative to the market size.

The establishment of buyer switching costs was found in horse riding, forest areas for dogs and potentially also mountain biking. Sunk costs in the form of large upfront investments in an uncertain market are believed to be the main obstacle for many forest owners who would like to provide recreational goods (Vedel et al. 2009). Creating buyer switching costs can be an important way to minimise sunk costs and create a stable demand for a while. This can be by contracting with organised buyers or by lowering purchase frequency and raising the price by selling access licenses for a specified period. Reducing sunk costs by establishing buyer switching costs will also make the first-mover less vulnerable to shifts in demand than if he was tied through large sunk costs. Vedel et al. (2009) have addressed the issue of sunk costs and market uncertainties in recreational goods and analysed the potential social gains from subsidising entry into these markets which could be a different approach to overcome large sunk costs if market supply is sluggish.

Table 1 shows that horse riding, forest areas for dogs and mountain biking share some of the same opportunities, whereas the characteristics and opportunities for fairs as a recreational good are different. Fairs resemble services to a greater extent which generally possess smaller first-mover advantages and, moreover, it is easier to copy them or offer a slightly different good. Pre-emption by taking up the most attractive product characteristic space could be one way of gaining a first-mover

advantage for this type of recreational good. Recreational goods which resemble services can lead to higher search and learning costs, since users cannot infer the quality by inspection beforehand and they may be less willing to test a new recreational good if they are already satisfied with the first one.

Specialised user groups have been found to be willing to pay more for recreational goods than less specialised user groups (Munley and Smith 1976; Christie et al. 2007). This should be taken into consideration when creating recreational goods with first-mover advantages in mind since the revenue generated from directing the good at specialised user groups may be larger. However, specialised users are often fewer in numbers so the extra gains per user for a specialised activity have to be traded off against a potentially higher number of users with lower willingness to pay for recreational goods directed at their needs.

The recreational goods discussed here are mainly aimed at attracting people who use the facilities on a regular basis or once in a while as a part of their everyday life. On the positive side, this means that it may be possible to attract a great number of users on a regular basis and potentially create buyer switching costs by selling licenses or more formal contracts for frequent use of an area/facility. On the negative side, it means that these recreational goods are not something people only purchase once in a lifetime like mountain biking in Moab and therefore have extremely high willingness to pay for. However, this difference may be offset in the long run due to the purchase frequency—but it requires many users visiting the site repeatedly and as a result of that a larger impact on the forest.

When excludability is established by law and tradition as in the case of horse riding it naturally makes the marketing and selling of this type of recreational good easier and it also makes it more acceptable to the public that this is something they have to pay for. This is in contrast to, e.g. mountain biking where the public are allowed to ride on established roads and paths in private forests which means that forest owners have to offer something more than access to ordinary forest roads in order to establish excludability and make the good attractive to riders. In the light of the fact that many recreational goods from forests have until recently been viewed as public goods, tradition and excludability will have an impact on how long time it takes to get public acceptance of selling these goods and therefore also on how easy/difficult it will be to enter the market as a first-mover and potentially create an advantage.

Public supply of recreational goods can crowd out private supply and first-mover advantages. However, despite a public supply, this has not happened for horse riding. Demand is mainly determined locally for this type of good and forest enterprises rarely compete with the public supply. Since the national experiences with forest areas for dogs and mountain biking as marketed recreational goods are still limited, it is not clear whether or not private supply will be crowded out by public supply. This is likely to be determined by both the distance dog owners/riders are willing to travel to the facilities and whether or not it is possible for private forest enterprises to offer a superior good in the future.

Non-Specific First-Mover Advantages

Affecting preferences and economies of scope are not related to specific good characteristics and were therefore not included in Table 1. The opportunity to affect people's preferences can be present across a wide range of recreational goods and is classified as a non-specific first-mover advantage. Economies of scope share similar characteristics as they can be pursued in relation to many different types of recreational goods. Pettenella et al. (2007) emphasise that complementary recreational goods might be superior to other goods, which can be related to establishing economies of scope. However, economies of scope could also be to, e.g. create an efficient payment vehicle where users for example can pay through internet or cell phones services. This could create substantial economies of scope since it could potentially be used for a number of different goods and thereby reduce transaction costs. Merlo et al. (2000), for example, found 20 different modes of payment which had been used altogether in the 98 case studies they investigated. Both these and our studies indicate that there could be room for optimisation with regard to payment vehicle.

Conclusion

Recent changes in rivalry among user groups and an increase in the demand for nature-based recreational goods have gradually made recreational nature-based goods marketable. Despite the rather slow market development recreational goods can potentially be connected with substantial first-mover advantages.

Based on the general characteristics of recreational goods and the analysis of four examples of recreational goods from a forestry context, a framework has been created to show that specific first-mover advantages can be related to specific characteristics of recreational goods. A few first-mover advantages, namely affecting preferences and economies of scope, can on the other hand be pursued across a wide range of recreational goods since these do not rely on special good characteristics. First-mover advantages were found to be prevalent in non-subtractable recreational goods with characteristics which resemble manufactured goods. Recreational goods which resemble manufactured goods were found to promote first-mover advantages through network effects, economies of scale and buyer switching costs, whereas goods which resemble services mainly promote search and learning costs. With regard to the four examples, the creation of buyer switching costs was found to be significant for horse riding, forest areas for dogs and potentially also for mountain biking. Buyer switching costs were established by contracting with organised buyers and selling access licenses to unorganised users for a specified period. Hereby users are tied to the area for a period and, moreover, the transaction costs are greatly reduced. Moreover, if it is possible to contract with organised buyers and create market segmentation it can further increase first-mover advantages. Public supply of recreational goods may crowd-out private supply. However, this has so far not been the case for horse riding and forest areas for dogs since competition is mainly on a local scale and in other cases private forest owners

have established niche markets and offered goods which are superior to the public supply.

Since the state often provides various public goods on private land through subsidies, increased access to forest areas for the public could also be achieved through contracts between private forest owners and municipalities or other public institutions. This could be an attractive way for municipalities to provide recreational goods for the public in areas where public forests are scarce and it could be relevant to many different types of recreational goods in addition to those discussed here e.g. facilities for live-action role play, exercise tracks, forest playgrounds, outdoor schools etc. Activities which benefit a large number of adults and/or children could be attractive to contract on for municipalities. Municipalities as potential buyers of recreational goods can lead to significant first-mover advantages since this may involve long term contracts and therefore substantial buyer switching costs. Furthermore, the first-mover in this market could also benefit from the effects this use would have on the infrastructure in the region (bicycle paths, footpaths, parking places etc.) which would consolidate his (first-mover) position in the market.

Increased knowledge on first-mover advantages can assist forest owners in choosing the most suitable type of recreational good for their forest enterprise and which market segment to direct it at. Since some first-mover advantages can be related to specific types of goods whereas others can be pursued in relation to many types of goods, it is to some extent possible to create your own luck and asymmetries when entering the market for recreational goods as a first-mover.

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